Sri Datta Budaraju

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EDUCATION

KTH ROYAL INSTITUTE OF TECHNOLOGY Aug 2018 - Present | Stockholm, Sweden
MSc in Computer Science, Machine Learning Major
Coursework - Advanced Deep Learning, Proj. course in Robotics and Autonomous Systems, Proj. course in Data Science, Deep Learning, Speech and Speaker Recognition, Speech Technology, Artificial Intelligence, Machine Learning

AMRITA SCHOOL OF ENGINEERING Aug. 2015 - July 2018 | Coimbatore, India
BTech in Computer Science | Cum. GPA: 8.63 with Distinction
Coursework - Intelligent Systems, Digital Image Processing, NLP, Python, Probability, Optimization, Embedded Systems

EXPERIENCE

MERCEDES BENZ - PROJECT ATHENA | Thesis Intern April 2020 - Present | Stuttgart, Germany
- Exploring novel unsupervised learning approaches for 3D human pose estimation

KTH FORMULA STUDENT | Lead Perception Engineer Oct 2018 – Dec 2019 | Stockholm, Sweden
- Contributed to camera and LiDAR based detection and calibration modules including data collection to real world testing
- Led the development of the perception pipeline from design to recruiting and guiding new members for the next competition
- One of the 20 driverless teams shortlisted to participate in Formula Student Germany 2019 in the first year of development

AMUDA LAB | UG Researcher March 2017 – March 2018 | Coimbatore, India
- Research on indoor localization techniques for smart hospitals project under the supervision of Dr. Vidhya Balasubramanian
- Data collection, implementation and testing of triangulation algorithms on WiFi and BLE signals to pinpoint devices indoors

PROGRAMMING SKILLS

LANGUAGES Python, Java, MATLAB, C
FRAMEWORKS PyTorch, Keras, TensorFlow, Spark, Kafka
MISC. Git, ROS, Linux, Android Studio, Jupyter, GCP, Latex
LIBRARIES Numpy, OpenCV, Pandas, Matplotlib, TKinter

PROJECTS

BINARIZED NEURAL NETWORK OPTIMIZATION | PyTorch Oct 2019 – Dec 2019
- Reproducing Neurips19 paper, "Latent Weights Do Not Exist" from scratch including binary layers and optimizers
- Our team obtained top 10 review scores out of 80+ final submissions for the NeurIPS19 Reproducibility Challenge

ROBOTFASHION - Robotic Version of DeepFashion2 | PyTorch Sep 2019 – Dec 2019
- A novel dataset and baseline for classifying and localizing clothing in a deformed state by robotic hand manipulation
- Generated data from 350+ clothing items across 12 categories , 14x larger than existing robotic datasets

DEEP IMAGE COLORIZATION | Keras, TensorFlow Apr 2019 – Jun 2019
- Colorizing grayscale images using bi-headed autoencoder fusing encoder embedding with pretrained Resnet features.
- The features represent low-level image features while encoder learns the features crucial for the colorization task

CLASSICAL PIANO COMPOSER RECOGNITION | Keras, TensorFlow Mar 2019 – Jun 2019
- Analyzed the correlation between the composers using Mel-scaled spectrograms of piano music in Magenta Project dataset
- Experimented with KNN, RNN, LSTM, and GRU to learn the temporal information for this previously unexplored task

OBJECT DETECTION FOR AUTONOMOUS DRONE | ROS, OpenCV, Python, YOLO Feb 2019 – May 2019
- Created a dataset of 15 traffic signs from drone footage and integrated the trained YOLO in ROS for inference on live feed
- Extracted edges of the signs in the bounding box and used Perspective-n-Point to estimate their 3D position in the world

ACCIDENT ANTICIPATION | Keras Apr 2018 – Jul 2019
- Hand sampled 200+ accident clips from YouTube videos and used YOLO to extract bounding box of the vehicles in the scene
- Trained a hierarchical recurrent neural networks with LSTM cells for anticipating accidents based on the bounding boxes

PUBLICATIONS

[1] B. S. Datta, R. Ganapathy, S. R. P, S. K. Vasudeva, and A. SN. An inventive and innovative alternate for legacy chain pulling system through internet of things. *Indonesian Journal of Electrical Engineering and Computer Science*, 6(3):688, June 2017.
[2] B. Sri Datta, K. V. Shriram, and V. Sucharitha. A real-time novel road safety system pertaining to indian road condition. *International Journal of Advanced Intelligence Paradigms, In Press*.